CMW® ELKONIUM 23 silver, copper alloy

Category : Metal , Nonferrous Metal , Precious Metal , Silver Alloy

Material Notes:

Alloying copper into silver increases the hardness of the material, and its resistance to mechanical wear and deformation. The electrical and thermal conductivity remain relatively high, thus, the alloys retain good current switching characteristics. Corrosion resistance decreases as the copper content increases. Copper oxides and other films will increase the surface resistance of these materials. This will require higher closing forces, usually 2 ounces or more, and some wiping action to break through the films and establish good contact. Because of the oxidation tendency, the silver-copper alloys should be avoided in high temperature applications. The silver-copper alloy materials are ductile and can be made in almost all the same shape and size contacts as fine silver. Usually, they will show an economical advantage over fine silver.ELKONIUM® 23 alloy has a tarnish resistance almost as good as fine silver and is a little harder. In low force devices, which have high inrush currents, this material has somewhat less tendency toward sticking than fine silver.Information provided by CMW Inc.

Order this product through the following link:
http://www.lookpolymers.com/polymer_CMW-ELKONIUM-23-silver-copper-alloy.php

Physical Properties	Metric	English	Comments
Density	10.5 g/cc	0.379 lb/in³	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell 15T	50	50	annealed
	80	80	cold worked
Tensile Strength, Ultimate	207 MPa	30000 psi	annealed
	345 MPa	50000 psi	cold worked
Elongation at Break	3.0 %	3.0 %	cold worked
	37 %	37 %	annealed

Component Elements Properties	Metric	English	Comments
Copper, Cu	1.5 %	1.5 %	
Silver, Ag	98.5 %	98.5 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.00000180 ohm-cm	0.00000180 ohm-cm	97 % IACS

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